



BAKER ELECTRICS

BAKER ELECTRICS

SHAFT DRIVEN



1911

THE BAKER MOTOR VEHICLE COMPANY

CLEVELAND, OHIO.



BAKER ELECTRICS

Shaft Driven



ANY people are unaware of the great strides made by the Electric Motor Car in recent years. They do not realize how far and how fast a good electric will travel. They know it is cleaner, safer and more convenient, less expensive to maintain and easier to drive, than any other type of car, but they are also prone to imagine that these advantages in an electric are enjoyed at the expense of speed and mileage. This is a mistake.

As a matter of fact, and of experience as well, the Baker Electric meets every need of the average motorist. It does everything that a gas car is called upon to do except touring. Through mechanical improvements, the mileage of the electric has been increased year by year. With standard lead batteries it varies in ordinary use, according to conditions, from 60 to 100 miles on a single charge, and with Edison batteries under similar conditions, from 90 to 150 miles. Travelling 100 miles on city streets means nearly seven hours steady driving at the rate of 15 miles an hour—a very considerable performance for a town car or suburban vehicle.

Years of superior service have proven the Baker to be the most efficient electric built. It will travel further on a single charge than any other car equipped with a battery of equal ampere hour rating, and this superiority does not depend on mere accessories—tires, batteries, etc., which are not an integral part of the machine and can be put into a mighty poor chassis, but is due to superior mechanical and electrical designing and workmanship. Its motor develops more power than any other; its controller makes an even and economical demand upon the batteries; its shaft drive transmits power with less friction. These are the main factors behind Baker efficiency. But there are many other refinements which contribute towards the same end.

The Baker is pre-eminently a car for refined social uses. Its beauty of design and silent running appeal to women of taste. Its appointments are at once simple, elegant and comfortable. The car's social prestige is due to years of refined usage by people who want and will pay for the best. It has been repeatedly purchased abroad by foreigners of rank.

With the first electrics designed and built in the Baker factory began the electric car industry. The history of its progress ever



 Extension Coupe
Bevel Gear Shaft Drive

Seating capacity, four passengers; luxuriously fitted.

Painting—Black Body; Blue, Green or Maroon Panels.

Upholstering—Broadcloth or Leather.

Price, \$2,600.

Queen Victoria Body interchangeable on this Chassis.

Price, \$300 additional.

Straight Front (2 passenger) Coupe, same Chassis, \$2,400.

Full specifications on pages 15-17



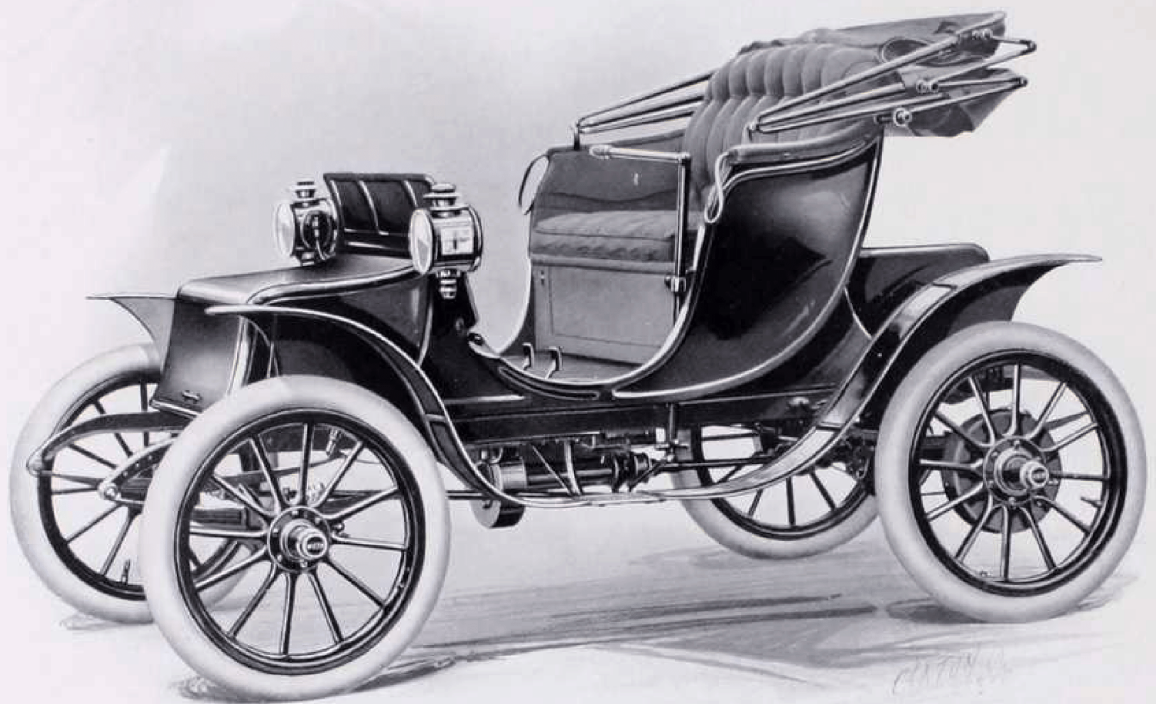
since has been a history of Baker improvements and successes. This has again been demonstrated by the fact that The Baker Motor Vehicle Company has made and sold over a thousand bevel gear shaft driven electrics before any other manufacturer turned out a single shaft drive car.

The Baker Bevel Gear Shaft Drive

is the most important single advance ever made in electric motor car construction. It is not an experiment. An entire season's use in the hands of a thousand owners has completely demonstrated its superiority over any chain driven mechanism. A recent Baker record of 244.5 miles on a single charge of an ordinary set of Edison batteries is another signal proof. No other electric has approached this record.

While the Baker shaft drive is in line with the best gas car designing at home and abroad, it was not merely adopted from this source. It was developed after years of careful experiment to meet the special requirements of electric motor power. In it friction has been reduced to a minimum, and specially designed gear teeth afford almost perfect rolling contact. The Baker shaft is a straight line drive equipped with an improved type of universal joints which are practically frictionless. This enables it to operate at any angle without the strain upon gears, bearings and springs inflicted by a rigid shaft.

Bevel gear shaft drive is the only modern form of transmission for propelling motor cars. All standard makes of gasoline cars have abandoned the use of chains and all electrics are destined to do likewise. But it does not follow that every form of shaft drive



Queen Victoria Bevel Gear Shaft Drive

The standard open Car.

Painting—Black Body; Blue, Green or Maroon Panels.

Upholstering—Broadcloth or Leather.

Top—Open or Full Victoria.

Price, \$2,000.

Straight Front (2 passenger) and Extension Coupe (4 passenger) bodies interchangeable on this Chassis.

Straight Front Coupe body \$700, Extension Coupe body \$900 additional.

Full specifications on pages 15-17

brought forward is necessarily efficient. It is entirely a question of applying the shaft drive principle to the needs of electric power—of developing in fact a new type of transmission. This is precisely what the Baker engineers have accomplished.

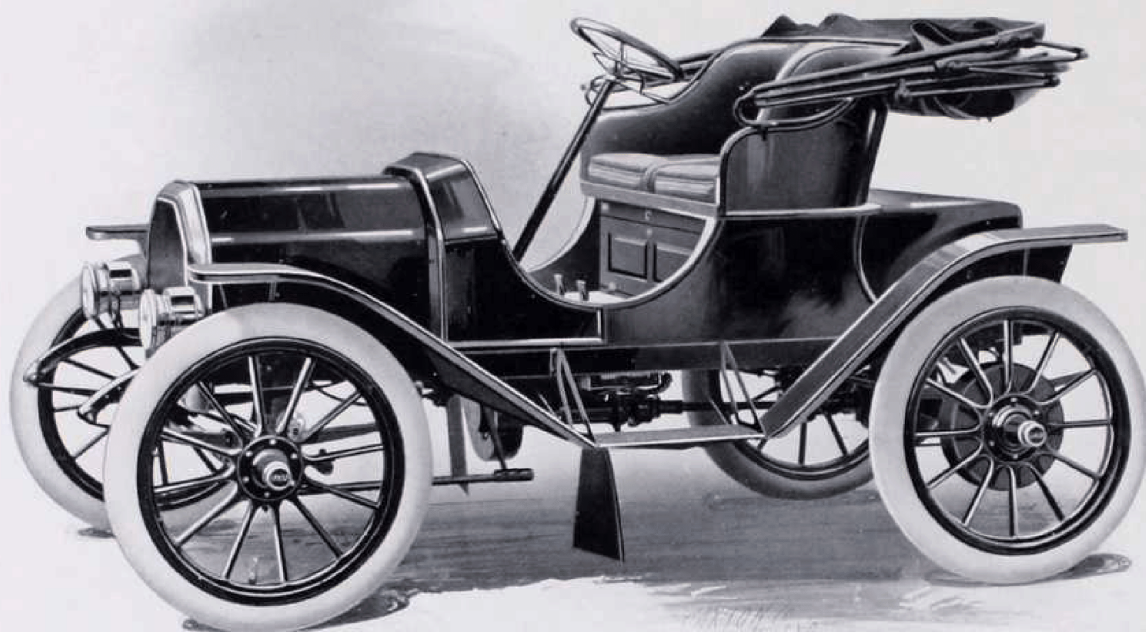
The Baker driving mechanism is not only more efficient than any chain drive in use; it excels as well any other shaft drive. The countershaft reduction, for instance, enables a light weight, high speed motor to save current in starting, in quickening speed, or in hill climbing, by means of the additional leverage afforded. This is an important economy in a town car like the electric, so often impeded by traffic in the streets.

The success of the 1910 Baker transmission has led other builders of electrics to adopt shaft drive in their 1911 product, and still others are likely to follow. But the motor car purchaser should carefully distinguish between the Baker shaft drive, as perfected and tested in a whole season's use in over a thousand cars, and any new types of transmission which may be developed to compete with it. The latter are necessarily experimental—and may be so for years to come.

It should be remembered in this connection that the first shaft driven Electric was a Baker, made nine years ago, and with it Mr. Walter C. Baker established records for electrics, many of which stand to-day. During the past eight years the Baker Company have manufactured and sold shaft drive electrics, steadily aiming at the perfection which has been finally attained in their present product.

The Silent Running Car

An attractive feature of the new shaft drive in the Baker Electric is the absence of noise when the car is running. The Baker is the quietest of all electrics, the quietest of all motor cars. This is very significant. Noise indicates friction, and friction indicates a waste of power. The power delivered by the motor in a Baker is not used in overcoming friction, but in turning the wheels. No matter how efficient a chain drive is at the start, it sooner or later becomes less efficient through stretching and wear. The Baker bevel gear drive is entirely encased and protected. It runs better the longer it is operated. It can not become clogged with dirt nor affected by the weather. There is no lost motion to cause wear and tear. The driving gears run in oil; never need adjusting. There is nothing to adjust in fact, nor to tamper with.



Runabout Bevel Gear Shaft Drive

A smart, racy Model designed for the professional and business man who wants more speed and mileage than the ordinary Electric affords.

Painting—Blue Body; Yellow Running Gear.

Upholstering—Leather.

Top—Open.

Price, \$2,000.

Runabout Coupe body (2 passenger) interchangeable on this Chassis, price \$700 additional.

Full specifications on pages 15-17



Shaft drive is not the only silent factor in a Baker. To make and to keep the car noiseless in its operation, the entire chassis is fitted together with a precision and a mechanical refinement seldom met with in motor car construction. Even small bolts are ground to fit exactly.

All Around Efficiency

Through all the changes in Baker construction since the beginning, its designers have aimed to produce an evenly balanced chassis whose strength would depend upon structural correctness rather than upon mere weight of materials. This has resulted in a lighter car of more graceful design and also in greater efficiency under all conditions. The chassis is more resilient under an evenly distributed strain. This has been a nice mechanical problem which has taken years to work out.

The elimination of dead weight in the chassis has been an important factor in increasing the mileage capacity of the car. This is also true of its silent and frictionless transmission. The compound series wound motor of special design, with 300% overload capacity, has been still another factor in this direction, and these three working together have enabled the Baker to outdistance any other electric on a single charge of either lead or Edison batteries.

The Baker is designed for all around use. No one feature has been favored or emphasized at the expense of any other. Speed and mileage and hill climbing ability have been secured, not by using a thin plate battery to give mileage at the expense of its durability, not by using a light, instable motor which will use an excess of current, not by an apparently simple transmission which really puts a heavy strain on the motor and the battery whenever an extra



Runabout Coupe Bevel Gear Shaft Drive

The ideal Car for physicians and business men who desire the smartness and swiftness of the Runabout in combination with an enclosed body.

Painting—Blue Body; Yellow Running Gear.

Upholstering—Cloth or Leather.

Price, \$2,400.

Runabout body interchangeable on this Chassis, price \$300 additional.

Full specifications on pages 15-17

demand is made upon it, but by mechanical refinements which eliminate friction and a motor which develops maximum power. This all around efficiency has enabled the Baker to make

The World's Mileage Records

On July 29th, 1907, a stock Baker Electric was driven 160.8 miles on a single charge of standard lead batteries, at an average speed of $13\frac{1}{2}$ miles per hour. This run was not made over a picked course, but over city pavements taken as they came under average running conditions. This is the highest mileage record ever made with lead batteries.

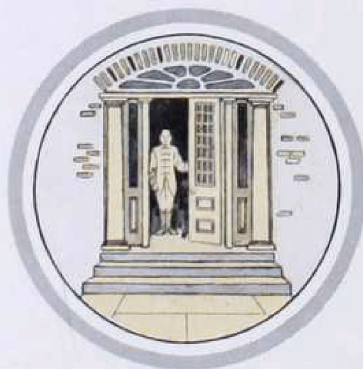
On November 9th, 1910, a shaft driven Baker Victoria, equipped with 40 cells of A-6 Edison battery, was driven $244\frac{1}{2}$ miles on a single charge, at an average speed of $12\frac{2}{3}$ miles per hour. The car was a stock car, and the route covered such streets and roads in and about Cleveland as would be met with in the ordinary daily use of a car. This is the highest mileage record ever attained by electrics under any conditions, and is a wonderful showing for both Edison batteries and Baker efficiency, especially in view of the adverse weather conditions which prevailed—a cold day with wind and rain.

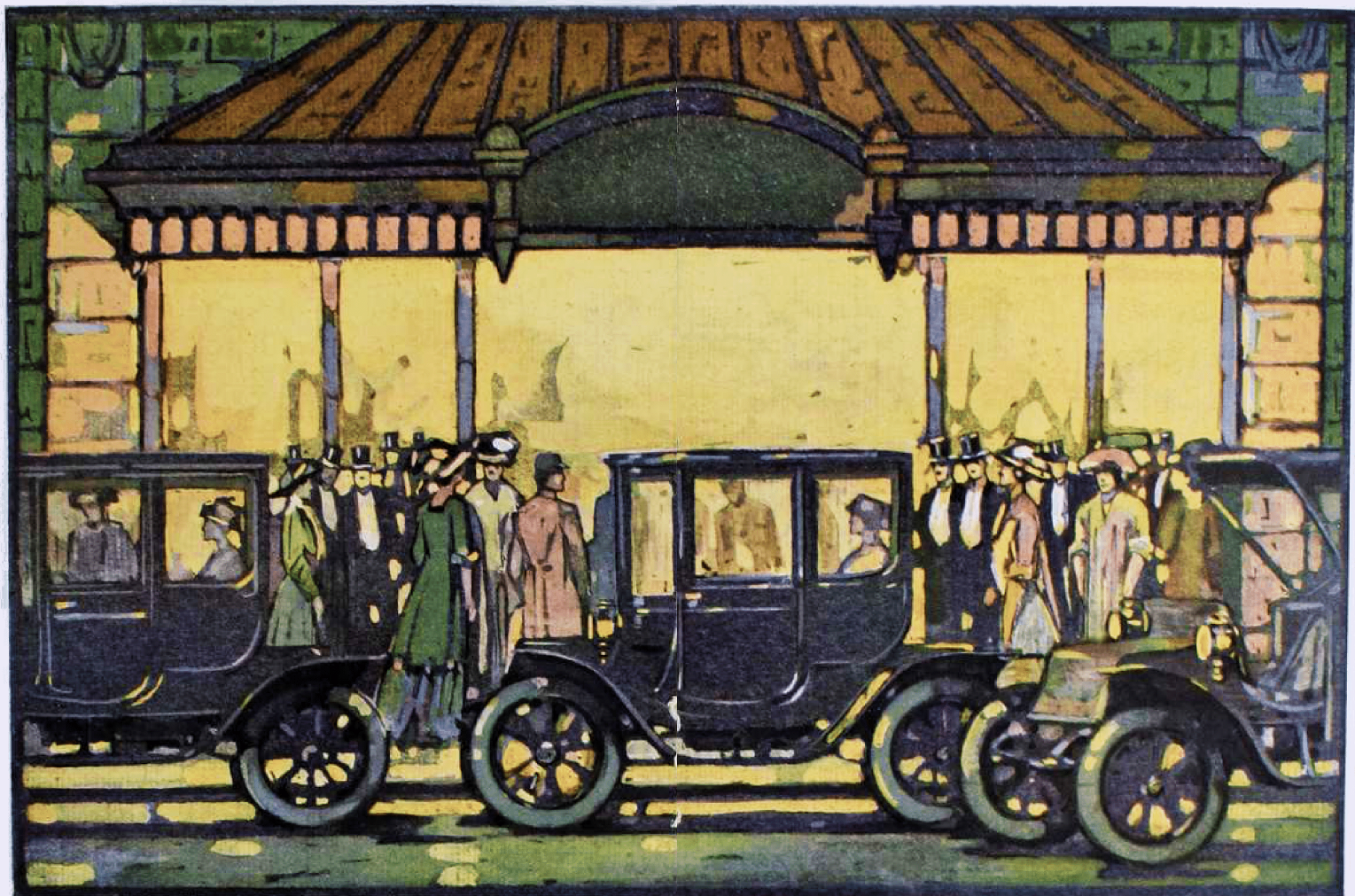
Safety and Comfort

The Baker is the only electric which has a non-arcing continuous torque controller of the drum type, giving six speeds forward and three reverse on one lever, with a mechanical lock and non-reversing safety device. Most electrics use a knife switch controller, similar to the one installed in the first Baker Electric built a dozen years ago. The patented controller has been rendered as safe as possible. If suddenly thrown on, the car would not lunge forward with a lurch. The speed would increase swiftly and smoothly. This is a unique safeguard in Baker Electrics and not only saves the occupants from discomfort and possible injury, but also protects the batteries, motor and transmission.

The luxurious ease of riding, characteristic of Baker Electrics, is due to an evenly balanced and resilient chassis on patented spring suspension and springs, semi-elliptic in front, full elliptic in rear, now increased to forty inches in length.

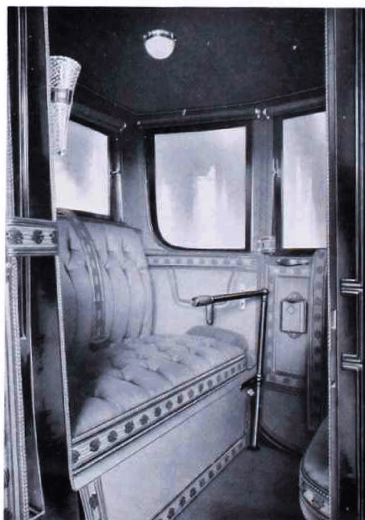
Two sets of internally expanding foot brakes on rear wheels insure quick and dependable stopping of the car anywhere. These brakes are absolutely independent of each other, and either or both may







THE beauty of a Baker Coupe is more than superficial. It is structural—a beauty of design and contour not to be had in any chain driven vehicles. The Baker is pre-eminently a car for refined social uses. Its graceful lines and exquisite interior appeal to women of taste. In comfort and luxurious appointments it equals the most expensive limousine.



WITH the first car built in the Baker factory more than a dozen years ago, the electric vehicle industry began. And its progress ever since has been a history of Baker improvements. Not only is The Baker Company the oldest and largest maker of electrics in the world, it also has designed the only efficient shaft drive—the greatest single advance ever made in electric motor car construction.





 Special Extension Coupe
Bevel Gear Shaft Drive

Extra large body. The most luxurious and commodious car of its type.

Painting—Black Body; Blue, Green or Maroon Panels.

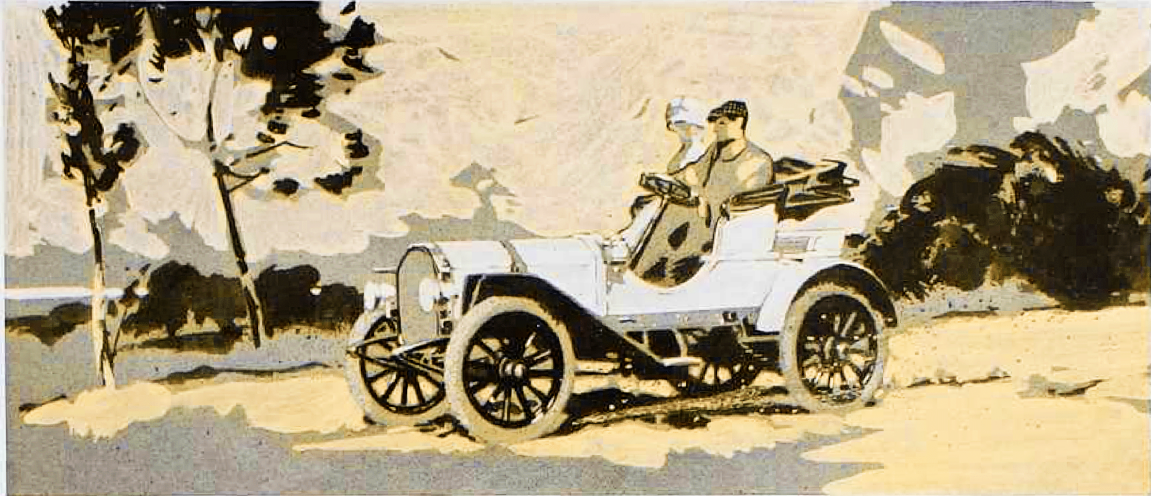
Upholstering—Broadcloth or Leather.

Batteries—28 cells 11-9 plate Baker, or Edison at extra cost (40 cells A-6 or 50 cells A-4.)

Tires—Pneumatic (Special Electric) or solid (Motz Cushion).

Price, \$2,700.

Full specifications on pages 15-17



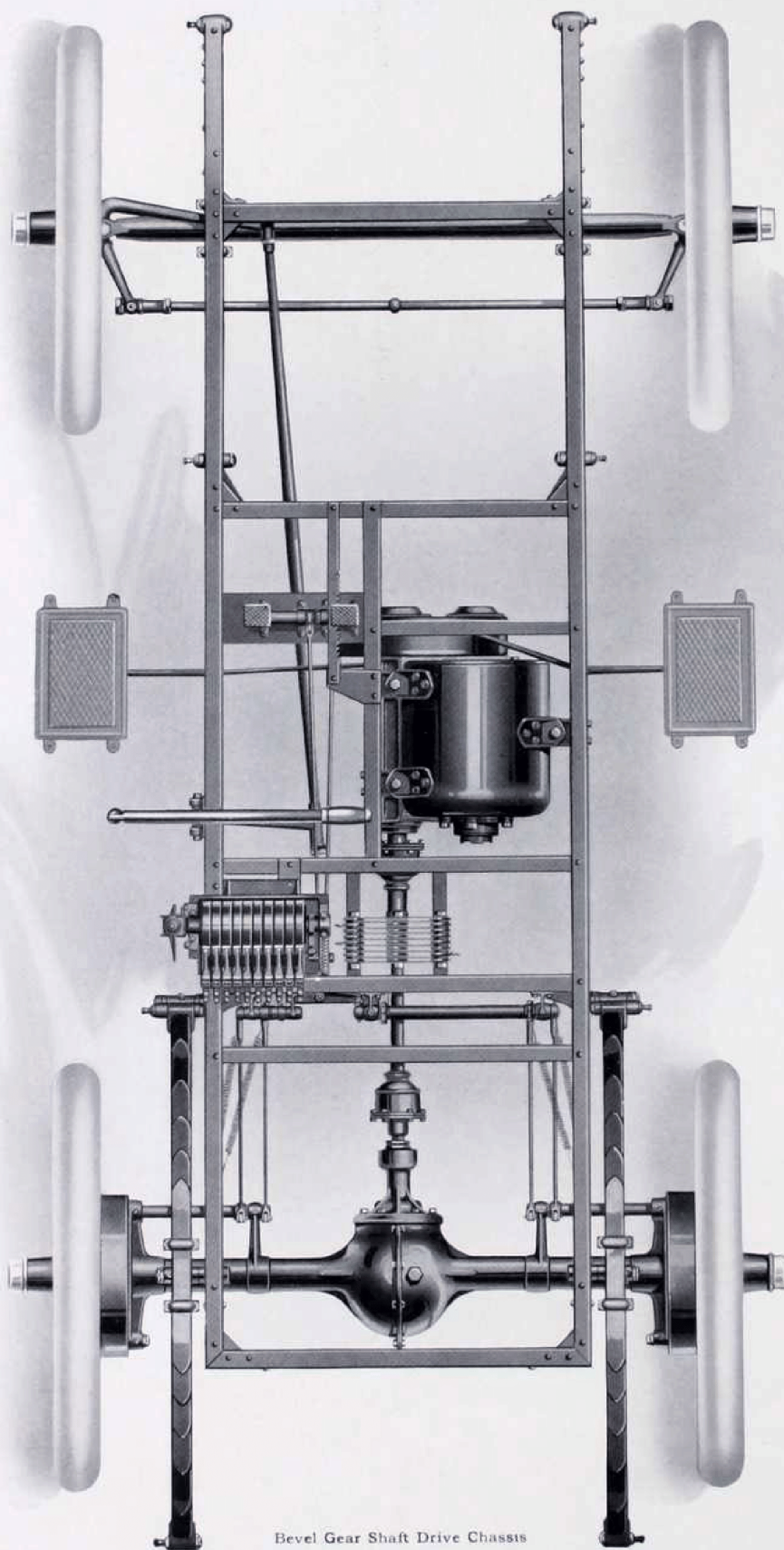
be used at will. A direct brake from foot lever to rear wheels is the only safe method. It operates without fail and does not lay a heavy strain upon the driving mechanism, as do brakes on shaft or motor. The force exerted by the brakes in coming to a quick stop exceeds the power used in picking up the same speed, and if this force is exerted on the driving mechanism in place of the wheels, a needless strain results.

The car is thoroughly safe for women and children to drive. It has the most dependable motor, the safest controller, unfailing brakes, and steering gear of unusual responsiveness. The entire driving mechanism is trouble proof. The absence of driving chains eliminates the oil and dirt of chain driven cars.

Low Cost of Operation

The price paid for a motor car is not so important as the cost of operating and maintaining it. The latter is mainly a question of tires, batteries, repairs and power. These items are immeasurably less in a Baker than in any other electric, for obvious reasons. The relatively light weight of the Baker chassis, its structural strength, and mechanical refinements, save tires and repairs. The specially designed motor and controller save the batteries and economize current.

The Baker is standard. Garage men the country over understand its mechanism and can give it intelligent attention. The parts are all interchangeable—made precisely alike by special machinery. In every respect Baker Electrics involve a minimum of expense and trouble to their owners. They are as nearly trouble proof as it is possible to build any power driven vehicle.



Bevel Gear Shaft Drive Chassis



Baker Electric Construction

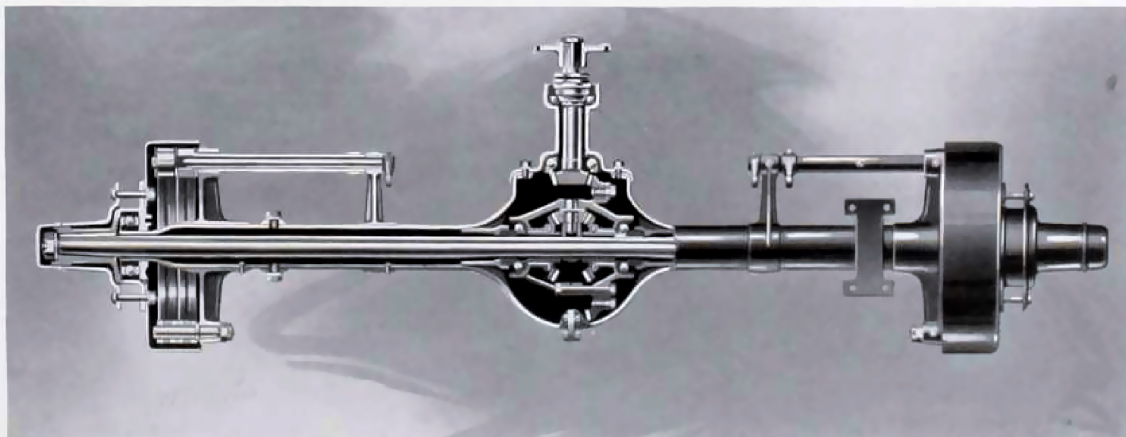
The Baker Electric owes its supremacy, first, to the way it is designed; and second, to the way it is built. The plan view of the new Bevel Gear Drive Chassis is shown on the opposite page. The specifications for the five cars shown in the preceding pages are as follows:

Frame Pressed steel.

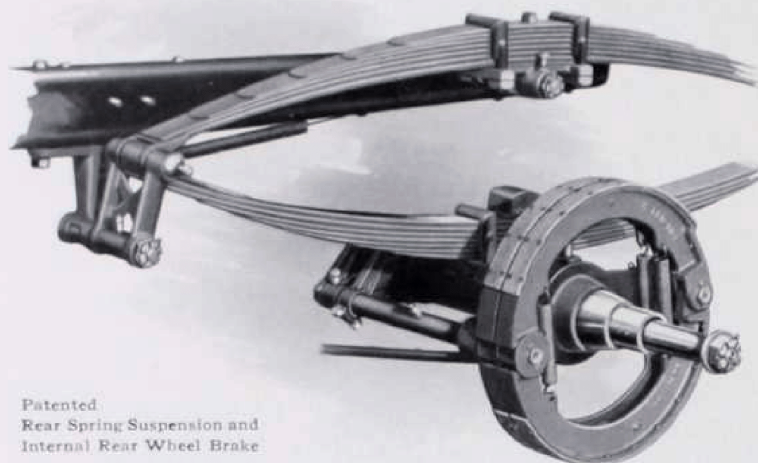
Rear Axle Semi-floating type of latest design, as approved by the best engineers. Made from special vanadium alloy steel scientifically heat treated. Housing drawn from sheet steel, giving extreme lightness and strength. Ball bearings of highest quality used throughout. Side strain eliminated and friction minimized by placing ball races directly under spokes of wheels.

Front Axle Hub drawn from sheet steel. Hub pressings accurately machined and fitted with highest quality ball bearings, the ball races being directly under the spokes of the wheels. Spring seats machined from high grade steel. Tube of special steel with semi-spring temper. Drop forged yokes attached to tubing by electric welding process.

Spring Suspension Semi-elliptic front; full elliptic rear. Front end of rear springs suspended from frame by a novel shackle (patented) which insures



Rear Axle Assembly



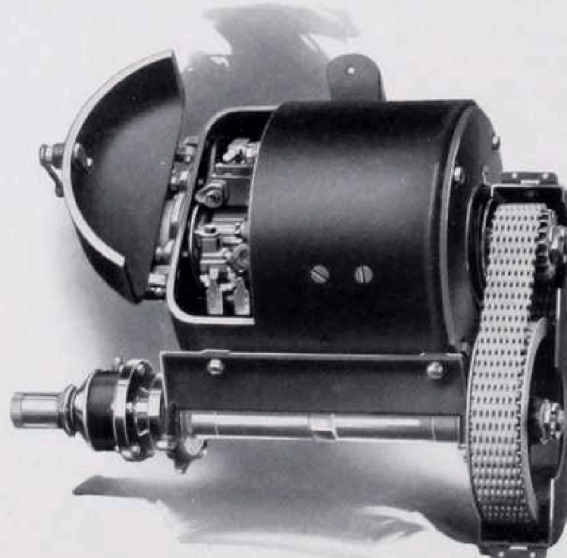
Patented
Rear Spring Suspension and
Internal Rear Wheel Brake

perfect alignment under all conditions, and permits the omission of the radius and torsion rods commonly used. One of the most prolific sources of noise is thus entirely eliminated from the new Baker construction. All springs are highest grade steel and are provided with reamed bronze bushings. Spring bolts are alloy steel, ground to size and provided with special oiling attachment.

Transmission From motor to countershaft by Renold silent chain, enclosed in dust-proof and oil-proof case. The Renold chain is self-adjusting as to pitch. Adjustment for length by eccentric device shown in illustration of motor. Transmission from countershaft to rear axle by Baker special design bevel gear drive, with vanadium alloy steel drive shaft. Differential and all gears in rear axle housing made from highest quality steel. Gears have planed teeth, specially hardened. Differentiating gears mounted on three-arm member with provision for self-aligning movement. All bearings ground to gauge that maintains exact sizes within limits of .00025 inch. Transmission shaft drives in a straight line and has two universal joints allowing free movement of rear springs.

Motor Special four-pole design, series wound, with large commutator. Will not spark or blacken under the heaviest load. The entire motor is unusually large and possesses an electrical characteristic which makes it proof against injury under the heaviest overloads. Requires no attention and gives uniform high efficiency in continuous service. Motor is attached to frame by the three-point suspension system. (Patent applied for).

Controller Patented continuous torque drum type, giving speed changes without arcing or fusing. Six speeds forward and three reverse on one lever. Special safety device to prevent accidental slipping into reverse when shutting off power. No pedals or switches used in connection with the con-



Baker Electric Motor — Silent Chain Reduction and Countershaft



Patented Baker Electric Continuous Torque Controller—Showing safety locking device and reverse interlock

troller. It is safe and dependable because it is free from complications. Speed changes are gradual, and are accomplished without jerking the car or wasting current. Controller has special mechanical lock (patent applied for) which does away with the electrical plugs commonly used, and makes it absolutely impossible to start the car except by the use of the owner's key.

Wheel on Runabout, Runabout Coupe, Roadster; side lever on all other models. Steering rods equipped with ball-and-socket shock absorbers, which minimize the vibration of the steering lever when the car is driven over rough pavements. Detail of this patented feature is shown in illustration. Similar ball-and-socket joints equipped with springs to prevent rattling are also used on the connecting rod between the steering knuckles.

Two sets of internal expanding brakes on rear wheels. Both brakes are mechanical, and are operated by foot levers with steel rod connections. Equalizing bars in brake gear to insure the same braking power on each wheel. Rear wheel brakes are used exclusively on all Baker Electrics because they are the only brakes that are absolutely dependable.

32-inch artillery.

Standard equipment, double-tube, quick detachable pneumatic, (Special Electric) 32 x 3½ inches front and rear—or solid (Motz High Efficiency Cushion) 34 x 3½ inches.

Standard equipment for Victoria, Straight Front and Extension Coupe, 28 cells, 9 plate Baker, or Edison at extra cost (40 cells A-6 or 50 cells A-4). Runabout has 30 cells 11-9 plate Baker, or 50 cells A-4 Edison at extra cost. Batteries are in series at all speeds.

All wiring is acid and weather-proof, and so arranged as to be unaffected by mechanical strains. All connections securely locked. Wire sizes are large enough to carry the heaviest loads of current without heating or loss of power.

80 inches.

50 inches.

The beauty of the Baker is not superficial—it is practical—a beauty of design and proportion. The body is constructed throughout in accordance with the highest standards of the coachmaking art—with roomy interior and luxurious appointments.

Steering Gear

Brakes

Wheels

Tires

Batteries

Wiring



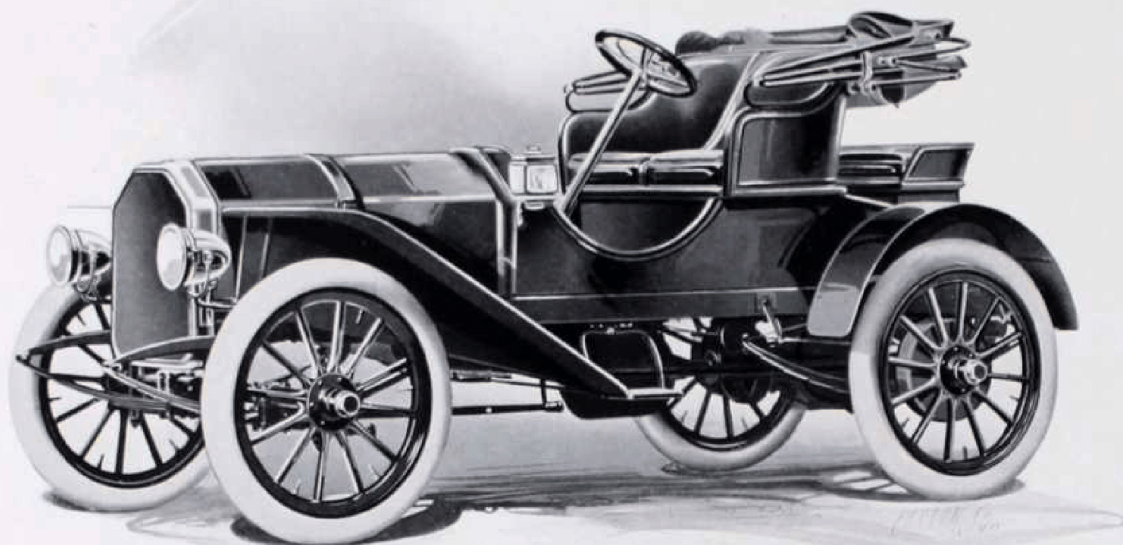
Wheel Base

Tread

Bodies



Details and Assembly of Cushioned Steering Connections



Roadster Bevel Gear Shaft Drive

The fastest Electric manufactured, capable of unusual speed when required, with all normal speeds as well. Controller lever on steering wheel, giving eleven speeds forward, 3 to 30 miles per hour.

Wheel base—95 inches. Tread, 56 inches.

Tires—34x4, pneumatic (Special Electric).

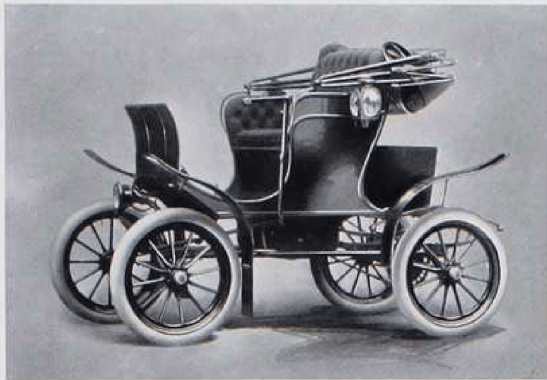
Batteries—40 cells 11-9 plate Baker, or 64 cells A-4 Edison at extra cost.

Painting—Blue Body, Yellow Running Gear.

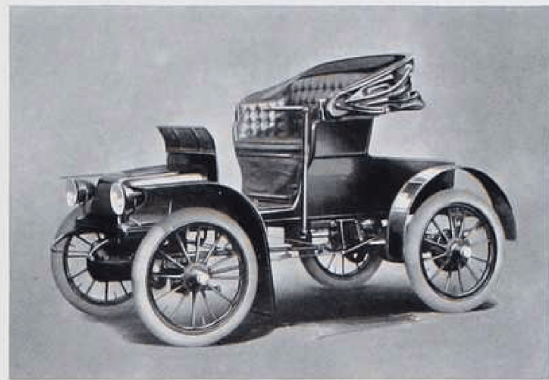
Upholstering—Leather.

Top—Open.

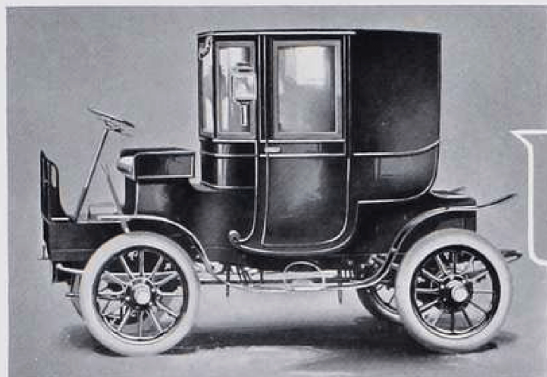
Price—\$2,500.



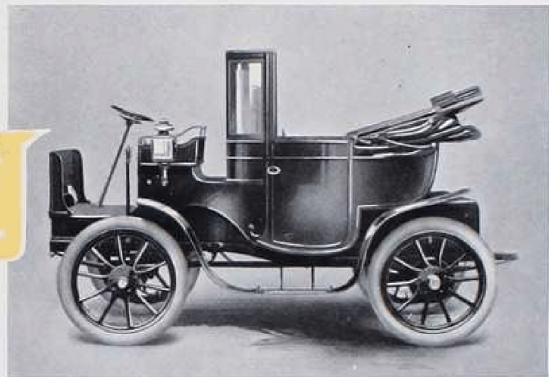
Stanhope \$1,000



Suburban \$1,500



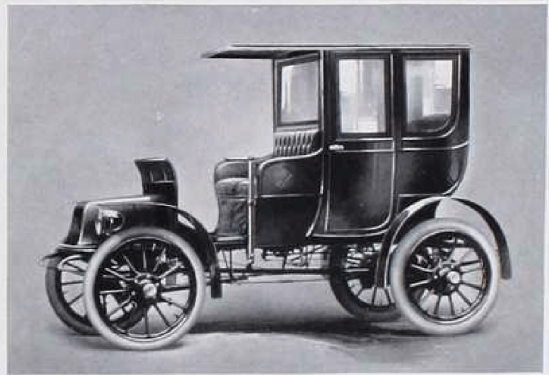
Brougham \$3,500



Landulet \$3,500



Surrey \$2,200



Depot Wagon \$2,200

Commercial Vehicles

In addition to our Pleasure Cars we make a full line of Commercial Vehicles for every purpose. Descriptive literature mailed on request.

The Baker Motor Vehicle Company
CLEVELAND :: :: OHIO

Home Garaging

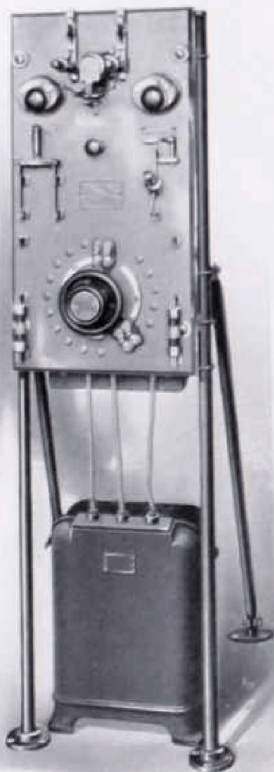
One of the chief reasons why the Baker Electric is so economical is that *you can charge and care for it yourself* if you desire to do so. The Baker Electric does not require an expert attendant any more than it requires an expert driver, and many Baker owners are finding it convenient as well as economical to garage their cars at home. The charging apparatus which takes current from your electric light service is simple and inexpensive and requires very little attention. The cost of the current is merely nominal, compared with the cost of gasoline to give equal mileage in a gasoline car.

Where alternating current is available, the charging is done by means of a Mercury Arc Rectifier.

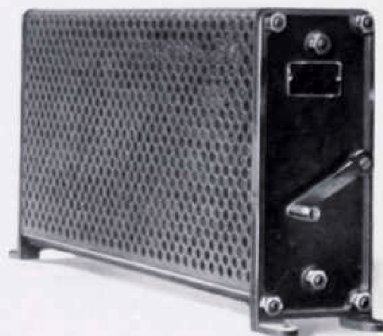
Where direct current is used, a Charging Rheostat is necessary.

Both kinds of apparatus are absolutely reliable and simple in their operation.

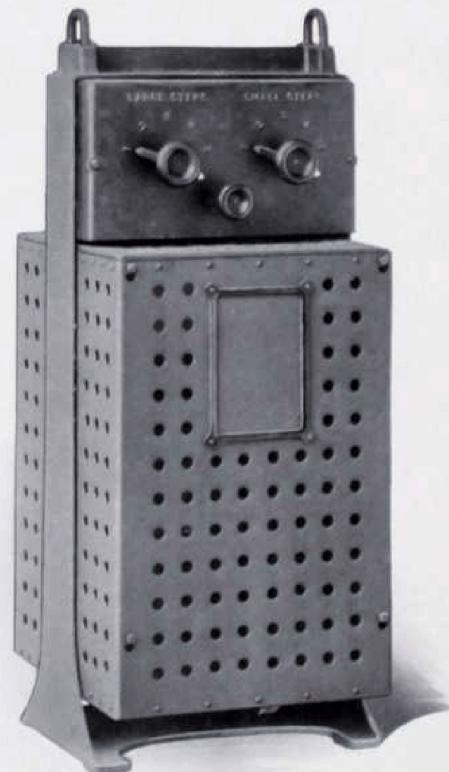
Aside from the cost of the current, a Baker Electric requires practically no expense for maintenance. It needs oiling very seldom. None of the important working parts require any attention whatever in the course of a season.



General Electric Rectifier



Charging Rheostat



Westinghouse Rectifier

**National Association of Automobile
Manufacturers, Inc.**

STANDARD WARRANTY

Adopted July 1st, 1907

WE WARRANT the motor vehicles manufactured by us for ninety days after the date of shipment, this warranty being limited to the furnishing at our factory of such parts of the motor vehicle as shall, under normal use and service, appear to us to have been defective in material or workmanship.

This warranty is limited to the shipment to the purchaser, without charge, except for transportation, of the part or parts intended to replace the part or parts claimed to have been defective, and which, upon their return to us at our factory for inspection, we shall have determined were defective, and provided the transportation charges for the parts so returned have been prepaid.

We make no warranty whatever in respect of tires, rims, radiators, coils or batteries.

The condition of this warranty is such that if the motor vehicle to which it applies is altered, or repaired outside of our factory, our liability under this warranty shall cease. The purchaser understands and agrees that no warranty of the motor vehicle is made, or authorized to be made, by the Company, other than that herein above set forth.

Designed, Engraved and
Printed by
The Caxton Company
Cleveland